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are comparatively rare, for the book as a whole is a remarkably trustworthy condensation of the chief facts of human physiology and hygiene.

P.

As to "Social Ascidians." — In a recent brief paper M. Maurice Caullery[1] adds one more to the numerous instances brought to light in recent years tending to obliterate the distinction between social and compound ascidians. The case now reported is likely to be noticed more than the others have been, in that it relates to the genus Clavelina, which is one of the ascidians most familiar to the general zoölogist, and is usually given in text-books as a type of the social ascidians.

In this genus the ascidiozoöids, it will be recalled, bud from a stolon, but remain entirely distinct from one another, excepting for their connection with the common stolon. In the species here described (there are two of them) the ascidiozoöids differ structurally in no way from a typical Clavelina; but, instead of being connected to the common stolon only, *they are fully imbedded in a common testicular mass also.*

It is obviously necessary, Caullery says, to establish a new genus for these species; and the name proposed is Synclavella.

Had the author's acquaintance with the literature of this subject included the case of *Perophora annectens* described by me seven years ago, he would not, perhaps, have been so sure about the necessity of a new genus for his species. In this one species I showed (*Proc. Calif. Acad. Sci.*, Series 2, Vol. IV, p. 37) that "in very many, though not all, of the colonies the ascidiozoöids are as completely imbedded in a common test as they are in Botryllus or Goodsiria."

This species is exceedingly abundant at various points on the California coast, and one may frequently observe transitional states between social and compound on the same rock, and apparently in the same colony. I may now add that, after having studied them for a number of years, I have about reached the conclusion that the social condition is the usual one; and that the compound condition occurs only occasionally, even in the same locality. At Pacific Grove, for example, where the most perfect instances of the compound phase have been found, I have, on several visits, failed to find any at all of this kind. It is an interesting fact, also, that sometimes, at any rate, the ascidiozoöids of these fully compound colonies are noticeably smaller than those of the social forms.

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[1] Sur des Clavelines nouvelles (Synclavella *n.g.*), constituant des cormus d'Ascidies composées, *Comptes Rendus*, No. 21, May 21, 1900, p. 1418.

The specimens studied by Caullery were collected by Lesson in 1825, locality not given; and by Quoy et Gaimard in 1829 on the coast of Australia.

Wm. E. Ritter.

Parthenogenesis of the Honeybee. — Weismann[1] publishes an interesting preliminary account of studies on the parthenogenesis of bees, which have been carried on in his laboratory for the past three years. The conclusions of Dzierzon, confirmed by von Siebold and Leuckart, that fertilized eggs always produce workers (or queens), and unfertilized, drones (or males), having been in recent years called in question by practical bee culturists, Weismann deemed it imperative to have the question reinvestigated, especially in view of its great theoretical importance. He accordingly induced one of his students, Dr. Paulcke, to undertake the problem, and the studies thus begun are now being completed by Dr. Petrunkewitsch, another of Weismann's students.

One of the most energetic of the recent opponents of Dzierzon's conclusions has been the editor of the *Nördlinger Bienenzeitung*, F. Dickel of Darmstadt. His experiments seemed to prove that normally *all* eggs are fertilized. Eggs which had been laid in drone cells were transferred to worker cells, with the result that they developed into workers, and *vice versa*. Dickel argued, further, that the evidence of von Siebold and Leuckart, based on the microscopic examination of the eggs, could not be regarded as definitive, now that we know more precisely the phenomena accompanying fertilization. These observers had not examined eggs immediately after they were laid, but only after the lapse of from one to twelve hours. But it is now known that spermatozoa lose their thread-like form within a few hours after the eggs are laid, and are succeeded by the sperm nucleus and sperm aster; in fact, it has been recently asserted that this metamorphosis takes place in bees' eggs within fifteen or twenty minutes after the entrance of the spermatozoön into the egg.

Nevertheless, there is no ground to doubt, says Weismann, that von Siebold saw seminal filaments (even two to four in a single egg), for Blochmann, making use of the sectioning method, has seen the same, and Petrunkewitsch now confirms the observation; but these could have been seen only in von Siebold's freshest eggs, all of which

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[1] Weismann, A. Ueber die Parthenogenese der Bienen, *Anat. Anzeiger*, Bd. xviii, Heft 20–21, pp. 492–499, December 5, 1900.